



Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-17 (Cancelled).

18. (Previously Presented) A piston ring comprising a thermal spray coating at least on an outer peripheral surface,

which is combined with a cylinder liner of cast iron having a tensile strength of 300 MPa or less,

said thermal spray coating comprising chromium carbide particles having an average particle size of 5 μ m or less

dispersed in a matrix metal composed of a Ni-Cr alloy or a Ni-Cr alloy and Ni,

which has an average pore diameter of 10 μ m or less and a porosity of 8% or less by volume.

19. (Previously Presented) The piston ring according to claim 18, wherein said thermal spray coating has a Vickers hardness of 700 Hv0.1 or more on average, and the standard deviation of said hardness is less than 200 Hv0.1.

20. (Currently Amended) A piston ring comprising a thermal spray coating at least on an outer peripheral surface, which is combined with a cylinder liner of cast iron having a tensile strength of 300 MPa or less,

said thermal spray coating comprising

(1) a first phase having chromium carbide particles dispersed in a matrix metal composed of a Ni-Cr alloy or a Ni-Cr alloy and Ni, and

(2) a second phase composed of at least one metal selected from the group consisting of Fe, Mo, Ni, Co, Cr and Cu or an alloy containing said metal,

said first phase existing more than said second phase,

said thermal spray coating having an average pore diameter of 10 μ m or less and a porosity of 8% or less by volume.

21. (Previously Presented) The piston ring according to claim 20, wherein an area ratio of said first phase to a surface portion excluding pores (100%) is 60% to 95% in said thermal spray coating.

22. (Previously Presented) The piston ring according to claim 20, wherein said chromium carbide particles

of said thermal spray coating have an average particle size of 5 μ m or less.

Claim 23 (Cancelled).

24. (Previously Presented) The piston ring according to claim 18, wherein said chromium carbide particles of said thermal spray coating have an average particle size of 3 μ m or less.

25. (Previously Presented) The piston ring according to claim 18, wherein said thermal spray coating has an average pore diameter of 5 μ m or less and a porosity of 4% or less by volume.

26. (Previously Presented) The piston ring according to claim 18, wherein said thermal spray coating has a surface roughness (10-point average roughness Rz) of 4 μ m or less.

27. (Previously Presented) The piston ring according to claim 18, wherein said chromium carbide particles of said thermal spray coating are dendritic and/or non-equiaxial.

28. (Previously Presented) A method for producing a piston ring ~~recited in claim 18,~~ comprising a thermal spray

coating at least on an outer peripheral surface, which is
combined with a cylinder liner of cast iron having a tensile
strength of 300 MPa or less, said thermal spray coating
comprising chromium carbide particles having an average
particle size of 5 μ m or less dispersed in a matrix metal
composed of a Ni-Cr alloy or a Ni-Cr alloy and Ni, which has
an average pore diameter of 10 μ m or less and a porosity of 8%
or less by volume, the method comprising
_____thermally spraying a composite powder having said
chromium carbide particles dispersed in said matrix metal, at
least onto an outer peripheral surface of said piston ring.

29. (Previously Presented) A method for producing
a piston ring recited in claim 20, comprising thermally
spraying a mixed powder of (a) a composite powder having said
chromium carbide particles dispersed in said matrix metal, and
(b) a metal or alloy powder forming said second phase, at
least onto an outer peripheral surface of said piston ring.

30. (Previously Presented) The method according to
claim 28, wherein said composite powder is obtained by rapidly
solidifying a melt of said matrix metal containing said
chromium carbide particles.

31. (Previously Presented) The method according to
claim 28, wherein said composite powder is obtained by

granulating and sintering said chromium carbide particles and said matrix metal particles.

32. (Previously Presented) The method according to claim 28, wherein said thermal spraying is conducted by a high-velocity oxygen fuel spraying method or a high-velocity air fuel spraying method.